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# APPENDIX A

## UNITED STATES OF AMERICA
## FEDERAL POWER COMMISSION

## OPINION NO. 586

Area Rate Proceeding, et al. (Hugoton-Anadarko Area)
Docket Nos. AR64-1, *et al.*

## OPINION AND ORDER DETERMINING JUST AND REASONABLE RATES FOR NATURAL GAS PRODUCED IN THE HUGOTON-ANADARKO AREA

(Issued September 18, 1970)

(Portion)

### Supply and Demand

58. In determining area rates we have been charged by the Court of Appeals for the Fifth Circuit with predicting the probable demand for gas, determining the desired level of supply and attempting to determine a price which will elicit that level of supply. *Southern Louisiana Area Rate Cases, supra.* The court noted that this task was difficult, but said it must nevertheless be attempted by the Commission.

59. All major sources of energy in the United States are currently in short supply. Brown-outs have already occurred in some electric utility distribution areas. Restrictions on gas use have been imposed by distributors in a number of areas and are being considered in others.

The stock-pile reserves of coal for electric utilities are below the level considered by the industry to be a safe operating margin. The installation of nuclear power plants has progressed more slowly than was forecast and it now appears that nuclear power will not be able to ease the increasing demand on fossil fuel for many years. Domestic oil reserves are declining. Low-sulphur coal and oil are in short supply. Desulphurization facilities are lagging behind projected demand to meet stringent air pollution standards, destined to grow more stringent in several major urban areas. Pipelines are unable to obtain the desired supplies of natural gas. In 1968, according to the statistics of the AGA, the national findings of natural gas fell below production. This occurred again to a greater degree in 1969, when only about 8.3 trillion cubic feet were added to reserves while production mounted to 20.6 trillion.

60. The actual growth in demand for gas as reported by the Future Requirements Committee (FRC)[13] in September 1969, was 4.2% in 1965, 6.9% in 1966, 6.5% in 1967, and 9.1% in 1968. In September 1969, FRC estimated the growth rate for 1969 as 7.4%, for 1970 as 6.1% and for 1971 as 5.3%. For the 1970-75 period the average annual growth rate was estimated at 4.3% compounded annually, from 1975 to 1980 at 2.8%, from 1980 to 1985 at 2.9% and from 1985 to 1990 at 3.1%. These growth rates were based upon a survey of distributors throughout the country conducted by the FRC. Each distributor was asked to make projections from its own areas based on anticipated population growth

13. The Committee consists of 26 members drawn from pipelines (11), distributors (6), producers (4), government (5), plus two *ex officio* members from the University of Denver.

and trends in demand based on experience. FRC then compiled all the various predictions to produce its estimates for the future. To obtain production necessary to meet these projected increases would mean that the 20.6 trillion cubic feet production of 1969 would have to increase to about 21.9 trillion in 1970, 23.1 trillion in 1971, and 27.0 trillion in 1975.

61. The FRC figures have customarily been on the conservative side.[14] Virtually all predictions as to energy consumption in the past few years have proven swiftly to be gross underestimates. The Commission Staff Report on National Gas Supply and Demand (September 1969) indicates an average annual growth in demand of about six percent (compounded) since 1964. When projected into the future this average annual growth would result in substantially higher demands than those projected by FRC.

62. The largest single year's addition to natural gas reserves in the United States took place in 1956 when it reached 24.7 trillion cubic feet.[15] This was also a year of the great activity in domestic oil exploration and development in part engenered by disruption of the sup-

15. While reserve additions are extremely inaccurate as a measure of findings in any given year, this maximum figure is almost certainly not too high. In general, statistics as to findings must be averaged over several years to offset the inaccuracies in particular years.

14. It has been noted that the FRC's compilation is based upon data furnished by local distributors. The predictions of local distributors as to expected demands upon them have proved in recent years to be not only too low but very much too low. Independent and industry surveys, and the witnesses who have testified in area rate cases as to the probable demand for gas have unanimously under-estimated the growth in demand, some by 200 percent. The predictions of demand for coal and oil have also been proven to be far short of the reality.

ply of foreign oil. In no later year have total reserve additions exceeded 21.1 trillion cubic feet, the level in 1965 and 1967. We may fairly predict then that the production of natural gas which reached 20.6 trillion cubic feet in 1969 will shortly reach a level above that of any past year's additions to reserves. With declining gas reserves and an increasing disparity between demand and available supply, we are confronted with the unpleasant prospect that consumption of natural gas must be curtailed or end use controls imposed unless additional sources of supply can be found or alternative sources of energy developed to meet demand. There is little prospect that alternative energy sources will reduce the demand for gas in the next decade.

63. The evidence shows that the demand for gas has risen beyond all expectations of a few years ago and that it will rise within a few years to a level that will strain or even exceed the capacity of the industry to meet. This will not mean that those presently using gas will find none available. It does mean that some of those who want to begin to use gas will not be able to do so and that some of those who want to sell gas will not be able to get all they want for all their customers. Incremental supplies will be limited.

64. The situation in the Hugoton-Anadarko area is tied closely to that of the nation as a whole. This area is centrally located. While the greater part of its gas flows northeasterly to the Upper Midwest it could also be used to supply both the East Coast and the Far West. Pipelines which would normally obtain gas from this area have been compelled to go further afield to the Permian Basin. Southern Louisiana, the Texas Gulf Coast and Other

Southwest Areas. The demand upon the Hugoton-Anadarko Area may fairly be considered in terms of the national demand although, if anything, the proportionate demand upon this area would exceed that of the nation as a whole. As the Hugoton-Panhandle Field depletes, new Other Fields must replace it if the flow of gas is to continue at present levels.

65. There is no direct evidence in this proceeding as to what relationship a particular price might have to new gas supplies. Since price is one of the important factors bearing on supply, it is reasonable, therefore, to anticipate greater supplies of gas from an increased level of rates.

# APPENDIX B

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

[18 CFR 2.56]

Docket No. R-389A

Initial Rates for Future Sales of Natural Gas for All Areas

## NOTICE EXPANDING NOTICES OF INVESTIGATION AND PROPOSED RULEMAKING TO NATIONWIDE NEW GAS SALES AND STATEMENT ON NEW APPLICATIONS FOR CERTIFICATES FOR SALES FROM ALL AREAS

(Issued July 17, 1970)

1. Notice is hereby given, that pursuant to the Administrative Procedure Act, 5 U.S.C. 551, *et seq.* (1967) and Sections 4, 5, 7, 8, 14, 15 and 16 of the Natural Gas Act (52 Stat. 822, 823, 824, 825, 828, 829, 830; 56 Stat. 83, 84; 61 Stat. 459; 76 Stat. 72; 15 U.S.C. 717c, 717d, 717f, 717g, 717m, 717o) and upon an investigation to be conducted in this docket, the Commission desires to expand the scope of the investigation and proposed rulemaking set forth in its notice issued June 17, 1970, in Docket No. R-389, and, therefore, now proposes to issue rules fixing the terms and conditions under which it will issue permanent certificates for, and will otherwise regulate, new sales of natural gas subject to the Commission's jurisdiction nationwide, including but not

limited to the Southern Louisiana, Permian, Other Southwest, Hugoton-Anadarko, Texas Gulf Coast, Appalachian, Rocky Mountain and all other areas (except Alaska and Hawaii), under contracts dated after June 17, 1970. The rates to be set pursuant to this rulemaking will be firm rates, not subject to refund obligation. However: any rate set will be subject to prospective modification at the conclusion of any area rate proceeding which has heretofore been instituted, or which may hereafter be instituted by separate order.

Data available to the Commission indicates that interstate pipelines are unable to procure contracts for new supplies of gas, on a spot or long-term basis, at the same relative rate as heretofore, and that this does not appear to represent any decline in the productivity of the areas below earlier estimates. Recently significant pipeline capacity for intrastate transportation and sales has been put into operation in a number of areas.

2. We do not propose any specific terms and conditions in this notice. Rather, we will rely in making that determination on the responses to be filed herein. We propose to amend section "2.56, Area Price Levels for Natural Gas Sales by Independent Producers," as amended, in Part 2—General Policy and Interpretations, Chapter I, Title 18 of the Code of Federal Regulations.

3. As an aid to interested parties (hereinafter "parties") in preparing responses, and as notice to those who may be examined in this investigation, we set forth specific areas of inquiry, the purpose of which is to determine the terms and conditions which will result in an adequate supply of natural gas for consumers at the lowest rate consistent with maintaining an industry structure capable

of providing, and motivated to provide, service with its attendant risks. See *Permian Basin Area Rate Cases*, 390 U.S. 747 (1968) (hereinafter "*Permian*"); *Austral Oil Co. v. F.P.C.*, ___F.2d___ (Fifth Circuit 1970, slip opinion dated March 19, supplemental opinion reaffirming dated June 16, 1970, No. 27492, *et al.*) hereinafter "*Austral*").

4. First, we call on all parties including staff to submit an estimate of the current, nationwide cost of finding and producing non-associated natural gas. This estimate should be made using as far as possible the costing methods set forth in Commission Opinion Nos. 468 (34 FPC 191-207) and 546 (40 FPC 556-589). An explanation of the methods used in estimating current cost, together with all supporting calculations, shall be attached to the response. New gas cost estimates should be determined at the indicated 12 percent rate of return for purposes of responding to this paragraph 4. However, in their responses to the paragraph 5, the parties will have an opportunity to state any alternative rates of return which they deem more appropriate. The Bureau of Natural Gas has made a preliminary estimate which indicates cost increases in the range of 3-5¢ per Mcf exclusive of any modification in rate of return.

5. Second, we call on all parties to respond on rate of return and other factors discussed by the Supreme Court in *Permian, supra,* and the United States Court of Appeals for the Fifth Circuit in *Austral, supra.*

6. Third, we call on parties to respond on the question of the weight to be given to gas contract prices, terms and inducements or commodity value, in considering producer rates and on the question of whether the market

mechanism in the light of pipeline regulation will adequately protect consumer interests. See *Permian, supra*, p. 795. Any party responding to this issue should either include any information he may have concerning prices and other relevant terms applicable to contracts dated on or after January 1, 1966, for all intrastate sales of natural gas and any information he may have concerning prices and other relevant terms offered (or demanded), but not accepted, for contracts for interstate sale of natural gas in the aforementioned expanded areas (together with the factors believed to be the cause of the failure to contract) or state that no such information is available to him or state the reason or reasons why the information is withheld. Nothing herein shall limit investigation by the staff (pursuant to paragraph 11, *infra*), independent of any responses which may be filed.

7. Public hearings will be held in this expanded proceeding for the purpose of allowing a number of persons, such as small producers to state their views in lieu of filing written comments. These hearings will be held in Midland, Texas on July 29, 1970, at the Midland High School Auditorium; in New Orleans, Louisiana, on August 10, 1970, at Room T 9007, 701 Loyola Avenue; in Denver, Colorado, on August 13, 1970, at the U.S. Post Office Building, 1823 Stout Street; and Pittsburgh, Pennsylvania, on August 14, 1970, Room 2214, 1000 Liberty Avenue. Each of these hearings will commence at 10:00 a.m. local time and shall continue from day to day until recessed by an officer designated by paragraph 11, *infra*.

Any statements taken at a public hearing announced by the Commission or its Secretary will be reduced to written form and will be considered together with the

filed comments in this docket. Any party who wishes to make an oral statement in lieu of filing written comments should file a request with the Secretary on or before July 28, 1970, respectively, if the party desires to appear at the New Orleans, or the Denver, or the Pittsburgh hearing. The request shall state the name, title, and mailing address of the person, the interest he has or represents in this proceeding, and a waiver of the right to file written comments pursuant to paragraph 10, *infra*. Denial of an oral presentation means only that the person should file written comments if he wishes to be heard. Persons whose request is granted will be notified by mail of the date and time allotted. Additional hearings may be held upon notice from the Secretary. Any additional requests to be heard in Midland will be considered if filed on or before July 24, 1970; those who filed on or before July 10 will have their requests considered without further action on their part.

8. The initial notice of investigation and proposed rulemaking covered only the Permian Basin area as geographically defined in Docket No. R-389. This expanded investigation and proposed rulemaking shall make the proceeding nationwide (except Alaska and Hawaii).

9. All statements and submittals in response to this notice shall be under oath, acknowledged by a notary public or comparable official, as follows: (name) being duly sworn, deposes and says that he is (title and organization, if filing in a representative capacity); that he is authorized to verify and file this document, that he has examined the statements contained in the submittal and that all such statements are true and correct to the best of his knowledge, information and belief.

10. Any interested person may become a party to this expanded proceeding by filing with the Secretary on or before July 28, 1970, a notice of intention to respond in writing pursuant to this paragraph. All requests to be heard orally pursuant to paragraph 7, *supra*, will be deemed to be notice pursuant to paragraph 10. Persons who filed a notice of intention to respond or a request for oral hearing pursuant to R-389 before this amendment are parties to the expanded proceeding. The Secretary will thereupon prepare and publish a list of all parties. Parties shall certify that all other parties have been served with a copy of any subsequent filing. Responses in writing concerning this proposed rulemaking (hereinafter "original submittal") shall be filed with the Secretary at the Federal Power Commission, Washington, D.C. 20426, by August 21, 1970, instead of July 31, 1970, as previously scheduled. Any submittal shall state the name, title, mailing address of the person or persons to whom communications concerning this matter should be addressed, the interest in this proceeding, and whether the person filing them requests a conference at the Federal Power Commission. An original and fourteen copies of all submittals shall be filed. Responses to the submittals may be filed not later than September 21, 1970, instead of September 1, 1970, as previously scheduled, in the same form and number as the original submittals (hereafter "reply submittals"). The Commission will consider all such written submittals, responses, and statements taken pursuant to paragraph 7, *supra*, and any report filed by an officer pursuant to paragraph 11, *infra*, before issuing an order in this proceeding.

11. For the purpose of the aforesaid investigation, John W. Williams, E. B. Blackmon, and Paul L. Brady,

Staff Attorneys, are each hereby designated an officer of this Commission and empowered to administer oaths and affirmations, subpoena witnesses, compel their attendance, take evidence and require the production of any books, papers, correspondence, memoranda, or other records deemed relevant and material to the inquiry, and to perform all other duties in connection therewith as prescribed by law. These officers, or any of them, will preside at hearings provided for in paragraph 7, *supra*, unless otherwise provided by Commission order. However, nothing in paragraph 7, *supra*, shall limit the investigatory power delegated in this paragraph 11 or require that all depositions or other information obtained by subpoena duces tecum be publicly conducted or filed as a submittal in this docket. See 15 U.S.C. 717g. Any report to the Commission made by an officer prior to the Commission's decision in this Rulemaking will be filed as a submittal pursuant to paragraph 10, *supra*.

12. Statement on New Applications for Certificates for Sale of Natural Gas. Effective on June 17, 1970, for the Permian area, and effective on the date of this notice for all other areas, the Commission will accept for consideration applications by independent producers requesting issuance of a certificate of public convenience and necessity for sales of natural gas notwithstanding that the stated rate may be in excess of the ceiling or guideline rates. Applications requesting issuance of certificates of public convenience and necessity authorized herein shall be processed in accordance with the procedural requirements, including those relating to notice, intervention and hearing, set out in Part 157 of the Commission's Regulations under the Natural Gas Act.

Applicants shall state the grounds for claiming that the present or future public convenience and necessity requires issuance of a certificate on the terms proposed in the application.

Pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by Sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held before the Commission without further notice on all applications for certificates in which no petition to intervene in opposition is filed within the time required if the Commission on its own review of the matter believes that a grant of a certificate is required by the public convenience and necessity. Where a petition for leave to intervene in opposition is timely filed or where the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

13. Notice of investigation, of rulemaking, and statement on New Applications for Certificates for sale of natural gas in this Docket are separable. Termination or stay of any one by order of this Commission or otherwise shall not affect any other proceeding incorporated herein.

14. The Secretary shall cause prompt publication of this notice to be made in the Federal Register.

By direction of the Commission.

Gordon M. Grant,
Secretary

(SEAL)

# APPENDIX C

## FEDERAL POWER COMMISSION

## OFFICE OF ECONOMICS

Initial Rates for Future Sales of
Natural Gas for All Areas
Docket No. R-389A

Submission of the Office of Economics of
the Federal Power Commission

Washington, D. C. 20426

August 1970

The purpose of this response is to recommend for the Commission's consideration a fundamental overhauling of the present program of area rate regulation. The proposal herein described would discard the ratemaking methodology of Opinion Nos. 468 and 546 in favor of new ratemaking criteria which would be implemented through a more flexible procedural mechanism than in the past. A new informational system will be needed and probably also some new procedural safeguards, but the end result will be a substantial simplification compared with the course that has been followed heretofore.

The present proposal is premised on the continuing need for price ceiling regulation over producer sales in interstate commerce and it is designed to achieve realistic regulatory objectives through an efficient market solution,

as opposed to a rationing solution, of supply-demand imbalances. The essence of the proposal is a method of regulation which will facilitate timely adjustments of area rate ceilings, nationwide, to accommodate observed and anticipated market developments affecting natural gas demand and supply. The Commission's actions on rate changes would be backstopped by an expanded staff effort to monitor the results on a current basis and to propose corrective regulatory actions as needed.

Successful area rate regulation should provide these primary benefits: (1) rate ceilings and contract provisions which afford a sufficient inducement for producers to meet current market demand, but which deny them any undue advantage because of possible market imperfections or exceptional bargaining power; (2) a geographical pattern of price differentials which will promote an efficient allocation of productive resources and efficient use of transmission facilities; and (3) orderly markets which will reduce the uncertainties of decision-making by producers, pipelines, distributors, and consumers. These goals, together with the desirability of minimizing the necessary costs of regulation, epitomize the public interest in producer regulation.

As noted earlier, the preferred method of regulation should place primary reliance in the market mechanism to correct existing or emerging supply-demand imbalances. This will require varying the economic incentive for new gas discoveries so that the prospective return from the required future level of gas exploration and development remains competitive with comparable-risk returns elsewhere in the economy. The concommitant effect of any rate change will be either to dampen or encourage the

growth of market demand, thereby lending added support to the desired market adjustment. Because these market responses tend to operate with a substantial time lag, the Commission's decisions on needed rate changes must be fitted into an analytical framework which provides a basis for informed judgment on the probable impact of the new rates on future supply and demand.

The recent course of area rate regulation has opened a gap between what is sought and what is actually being achieved. (1) New contract prices are being restrained by ceilings below a level consistent with supply-demand equilibrium in the interstate market. (2) Supplemental supplies are being imported at higher prices than can be offered to domestic producers. (3) At the same time that the regulated interstate market is adjusting to shortages, the unregulated intrastate market, which can pay the necessary price to attract new supplies, is flourishing. (4) Instead of price certainty, regulation has fostered the growth of price expectations which favor the postponement of new dedications of reserves and new capital commitments. Taken together, these developments contain the seeds of a serious regulatory crisis.

Prompt and decisive Commission action is required to bring order into the regulatory disarray and to prevent long-term resource misallocation in the national economy. The first need is to settle on a fast procedure for increasing the established price ceilings, since the recent course of events offers unmistakable evidence that the allowed wellhead prices no longer satisfy the requirements of the market under present economic conditions. The next step, which is the major concern of this proposal, is to agree on ratemaking standards for the new price ceilings and

for subsequent adjustment of the ceilings to keep pace with changing market circumstances.

The basic ratemaking standard for new gas-well gas in Opinion Nos. 468 and 546 is the estimated national average cost of such gas. In Opinion No. 468, for example, the Commission stated that "a composite cost determination is the bedrock on which a regulated price must be established" (34 FPC 189-190). The instant Docket No. R-389A calls on all parties to provide estimates based on the same cost standard accepted by the Commission in the earlier case. It also cites a preliminary estimate by the Commission's Bureau of Natural Gas, indicating cost increases in the range of 3-5 cents per Mcf based on a 12 percent rate of return.

As explained below, the principle of cost-based pricing for new gas is seriously defective on both conceptual and practical grounds. Moreover, its continued acceptance as a basis for area rate regulation is certain to hobble the regulatory process without being productive of meaningful ratemaking guidelines.

To induce producers to find more gas in the period ahead the Commission must provide an economic incentive for them to explore a wider range of prospects and to be willing to incur higher exploration and development costs. This means that the price increase must precede the cost increase. It follows, therefore, that the use of test-year costs to justify the necessary price to elicit the required additional supply is destined to be self-defeating. The use of test-year costs would also be misleading, but in the opposite direction, in a period of excess gas supply, and it is of course inappropriate whenever costs are changing.

Apart from this fundamental objection to the cost-based pricing principle for area rates, there are serious infirmities inherent in any new gas costing derived by arranging the reported data in a costing format—for example, the circularity running between costs and prices and the absence of historical data directly matching E and D outlays with the resultant reserve findings. Perhaps the most troublesome of all is the joint cost allocation problem. It has no correct solution but only an intuitive one which is discretionary and therefore meaningless as a determinant of the necessary price. Experience has shown that many differences among the various new gas cost estimates can be resolved only by essentially arbitrary decisions which have a major influence on the end result. How, then, can the Commission rely on a new gas cost determination for evidential underpinning of its decision in this proceeding or in future area rate proceedings?

The alternative is to employ a functional or end-result test, not a cost test, in adjusting the area rate ceilings for new gas. In the beginning the Commission should be prepared to proceed by the trial and error method on an avowedly experimental basis. After studying the responses in this proceeding, which will presumably cover the relevant data (see below), and after considering economic analyses of demand and supply prospects under alternative price assumptions, the Commission should exercise its judgment in fixing the new ceilings.

By the time the new ceilings become effective, the monitoring program should be ready to begin operating. It will be important for the Commission to keep informed of new leasing activities and drilling ventures and to collect and analyze firsthand reports of the results of pipe-

line procurement activities. Current reports may also be needed on the status of shut-in wells and other potential sources of uncommitted reserves and near-term increments to available supplies. With experience, the monitoring staff will become increasingly skilled in analyzing the current flow of data on the industry's operations and identifying supply and demand responses. If it is concluded that the market correction is proceeding too slowly and that an inadequate price incentive is contributing to the lag, the new gas rate ceilings could be raised a second time. If there are signs of an overcorrection, the ceilings could be lowered. An adequate working inventory of deliverable gas reserves will of course be needed to absorb temporary supply-demand imbalances. Recognizing that each move is experimental, the Commission should adopt a posture of readiness to react on relatively short notice to the signals from its monitoring system.

The size of the initial and any later ceiling adjustments should be determined after evaluating such information as the following: (1) recent contract prices for competitively negotiated field sales to jurisdictional pipelines; (2) prices in intrastate sales; (3) changes in indexes of production costs; (4) trends in productivity in the producing industry; (5) the strength and composition of market demand; (6) price changes for competitive fuels in important end-use markets; and (7) the general economic environment as it affects the domestic gas producing industry.

The regulatory process will be aided by a major research effort by the industry, as well as the Commission staff, to develop a body of empirical evidence on the response of gas supply and demand to changes in price.

The most promising approach at this time is through the application of econometrics. Several econometric studies have been published in recent years on the supply elasticity of oil, but there are no comparable studies on gas supply elasticity other than the econometric model sponsored by the Commission's Office of Economics in the Permian and Southern Louisiana proceedings. A new econometric model is being completed by the Office of Economics for submission in the pending AR69-1 rate proceeding for Southern Louisiana. Work along this line is also underway in the academic community.

The availability of reliable estimates of the probable market responses to price changes will narrow the range for judgmental decisions in administering the area rate program. Such estimates will permit the Commission to adopt a supply target and tentatively select a pattern of price ceiling adjustments which will yield a national average price appropriate for that target. While a formulary approach, when perfected, should be useful for a first approximation of the necessary ceiling levels, the final decision of the Commission should of course be accommodated to all relevant facts regarding current and prospective market conditions and the need for ceiling changes. An effort should also be made to design econometric analyses for use in the monitoring program.

This proposal of a new approach to area rate regulation is limited to the method of administering ceilings for gas-well gas of a new vintage. A desirable improvement over past practice would be to base the cut-off date between old and new vintage gas on the reservoir discovery date rather than the contract date of the sale. Under conditions of rising cost, it is unnecessary to provide the same price

incentive for new sales of gas from known reservoirs as for sales from reservoirs still to be discovered. Another advantage of a discovery date cut-off is that it would reduce the tendency to postpone contracting for new sales when it appears that the Commission may soon announce a price increase.

The following are other recommendations regarding the implementation of the proposal. First, the initial ceiling adjustment should be sufficiently large to induce a substantial acceleration of exploratory and developmental effort above the recent level. It should also be large enough to convince the producing industry that it is a "once-and-for all" change rather than the first of a series of upward price adjustments. A ceiling change could have perverse effects if it created expectations of still higher prices a year or two hence. Second, it should be recognized that producers are handicapped in their investment planning when they are faced with regulatory uncertainty. One way to reduce such uncertainty would be for the Commission to follow a policy of not ordering future price reductions below the initially certificated selling price. Third, the ceiling price adjustments should be extended simultaneously, or nearly so, to all major producing areas, with appropriate allowances for the locational value of the gas in each area. Because the Nation's requirements for additional gas supplies can be decided rationally only in a national context, the Commission should utilize the supply-eliciting effectiveness of higher ceilings evenly in all potential sources of domestic supply. The pattern of area rate ceilings should not provide extra inducements to divert exploratory effort to a particular area unless that area is demonstrably superior to other

areas from the standpoint of potential supply and its location relative to the principal interstate markets. A price high enough to elicit maximum supplies in one area may be wasteful of resources if part of the needed gas can be obtained in other areas at a lower cost to consumers.

Finally, it is appropriate to observe that action by the Commission to increase the area rate ceilings may need to be supplemented by other measures. The rate design of pipeline tariffs should be reexamined to be certain that higher-priced new vintage gas will not be sold to interruptible customers at less than the incremental cost. In addition, the Commission and the Department of Justice should consider whether there is a need for closer surveillance over merger activities and potentially anticompetitive business practices of companies engaged in gas production and transmission. Especially in a period of gas supply shortages, the public interest objectives of the area rate program are vulnerable to being thwarted if there are undue concentrations of market power or other possible interferences with the operation of competitive forces.